men there are scarcely any long fine hairs to be seen; feet slender and similarly thinly clothed. No trace of a lateral gland.

The skull differs conspicuously from that of *C. rubicunda* in its smaller size. The teeth differ in the shape of the first upper incisor as well as in the large size of the penultimate premolar. The first upper incisor has a large basal process provided with an internal basal cusp, the anterior principal cusp of this tooth is short and does not equal that of the second incisor in vertical extent; the third incisor is smaller and shorter than the anterior maxillary tooth; the small penultimate premolar is much larger than usual in the genus, being about three fourths the size of the third incisor in cross section at the base, and its cusp slightly exceeds in vertical extent the anterior basal cusp of the last premolar; the anterior mandibular tooth has two notches.

Length (of a skin): head and body 74 millim., tail 60, pes 15½; skull, occipital crest to front edge of premaxillary bone 17½, greatest width of skull 9, length of upper tooth-row 9, length of lower tooth-row 8½, length of mandible from condyle to tip of anterior tooth 12.

Hab. Madras Presidency, India (exact locality unknown).

Collected and presented to the British Museum (Natural History) by Dep. Surgeon-General F. Day, C.I.E.

LX.—*Contribution to our Knowledge of the Fishes of the Yangtsze-Kiang.* By Dr. A. Günther, Keeper of the Zoological Department, British Museum.

Since I had the pleasure of reporting on a collection of Reptiles* made by Mr. A. E. Pratt at Kiu-Kiang, on the Yangtsze River, he has proceeded further inland, to Ichang, a distance of 1000 miles from the mouth of the river. He was fortunate enough to obtain there a specimen of the porpoise, the existence of which had been mentioned by several travellers (Blakiston, A. J. Little), and of which I especially desired

* See *antè*, p. 165. I regret not to be able to make use of the notes on Chinese fishes in 'La Pisciculture et la Pêche en Chine par P. Dabry de Thiersant,' as the figures as well as the accompanying notes are the work of persons not conversant with the rudiments of descriptive ichthyology, and as likely to lead to misconceptions as to assist in the determination of the species.

him to procure a specimen. This porpoise is not what, from the great distance from the sea, I expected it to be, but proves to be identical with, or closely allied to, *Delphinus* (*Neomeris*) *melas* of Schlegel. I still consider it probable that a species of *Platanista* may yet be found to inhabit the Yangtsze-Kiang, a river which would seem to be well adapted for the existence of this type of freshwater Cetacean.

The fishes sent by Mr. Pratt in the same consignment belong to the following species :—

Chondrostei : *Acipenser*, sp. (two very young examples differing from the species hitherto known) ; *Psephurus gladius*, Martens (young).

Acanthopterygii : *Eleotris xanthi*, sp. n. ; *Ophiocephalus argus*, Cant. ; *Polyacanthus operc*ularis, L.

Siluridæ : *Silurus asotus*, L. ; *Macrones longirostris* *, Gthr. ; *Macrones crassilabris*, Gthr. ; *Macrones tæniatus*, Gthr. ; *Macrones Vachellii*, Rich. (A. 27) ; *Macrones macropterus*, Blkr.

Cyprinidæ : *Carassius auratus*, L. ; (*Crossochilus monticola*, sp. n.) ; *Pseudogobio sinensis*, Kner ; *Pseudogobio productus*, Ptrs. ; *Pseudogobio maculatus*, sp. n. ; *Rhinogobio cylindricus*, sp. n. ; *Pseudorasbora parva*, Schleg. ; *Xenocypris argentea*, Gthr. ; *Ctenopharyngodon idellus*, C. V. (specimens 2 feet long) ; *Rhodeus sinensis*, Gthr. ; *Ochetobius elongatus*, Kner ; *Squaliobarbus curriculus*, Rich. ; *Hypophthalmichthys molitrix*, C. V. ; *Chanodichthys pekinensis*, Basil. ; *Culter ilishæformis*, Blkr. ; *Hemiculter leucisculus*, Kner ; *Luciobrama typus*, Blkr. ; *Homaloptera fimbriata*, sp. n.

Cobitidina : *Misgurnus anguillicaudatus*, Cant. ; *Misgurnus mizolepis*, sp. n. ; *Nemachilus xanthi*, sp. n.

I subjoin some notes, chiefly descriptive of the new species.

Eleotris xanthi.

D. $6/\frac{1}{9}$. A. 1/7. L. lat. 33.

Præoperculum without spine. Twelve series of scales between the origin of the second dorsal fin and the anal. The scales on the neck, cheek, and opercles are small and do not extend on to the interorbital space. Scales finely ciliated. The height of the body is one fourth of the total length (without caudal), the length of the head two sevenths.

* This is not a Japanese species, as I was incorrectly informed when I described it.

Eye rather small, shorter than the snout, one fifth of the length of the head, and exceeding the width of the interorbital space. Head rather compressed and high behind, with broad snout, and with the lower jaw prominent. The maxillary extends to the vertical from the front margin of the orbit. Gill-membranes attached to the median line of the isthmus. Vertical fins lower than the body; caudal fin rounded, equal in length to the pectorals, which are three fifths of the length of the head. Light-coloured, with broad, indistinct, darker cross bands on the sides. Dorsal and caudal fins indistinctly spotted with brown; no spot at the base of the pectoral fin.

This species, of which there is only one specimen in the collection, 2½ inches long, is allied to *Eleotris potamophila*, but readily distinguished from it by its narrow, scaleless, interorbital space. I do not know of any other species of this genus extending equally high up in fresh water.

Crossochilus monticola.

D. 11. A. 8. L. lat. 42. L. transv. 7/7.

Lips not fringed, the lower with a firm, sharp, horny cover; four barbels, of which the lower are nearly as long as the eye and the upper minute. The height of the body is two sevenths and the length of the head two ninths of the total length (without caudal). Eye of moderate size, two ninths of the length of the head, two thirds of that of the snout, and rather more than half the width of the interorbital space, which is convex. Snout obtuse in front, with pits in which probably horny tubercles are secreted during the breeding-season. Mouth transverse, inferior. The origin of the dorsal fin occupies nearly the middle between the end of the snout and the root of the caudal; root of the ventral fin opposite to the fourth, fifth, and sixth dorsal rays; pectoral fin a little shorter than the head, reaching nearly to the origin of the dorsal fin. Four longitudinal series of scales between the lateral line and the root of the ventral fin. Caudal fin deeply cleft, as long as the head. Coloration uniform.

A single specimen, 7 inches long, was obtained by A. Henry, Esq., in a mountain-stream flowing into the Ichang gorge of the Yangtsze River.

Pseudogobio productus.

Pseudogobio productus, Peters, MB. Berl. Akad. 1880, p. 1035, fig. 6 (head).

D. 11. A. 9. V. 8. L. lat. 50. L. transv. 6/6.

The height of the body is one seventh of the total length

(without caudal), the length of the head more than one fourth. Snout long and produced, with the upper profile concave, much longer than the diameter of the eye, which is one fourth of the length of the head. Mouth inferior, subsemicircular, of moderate width; jaws with broad lips, the inferior fringed in the middle; upper lip not fringed; barbel as long as the eye, compressed and rather stiff. Præorbital elongate, rhomboidal. The origin of the dorsal fin is midway between the end of the snout and the first anal ray; ventrals inserted below the hinder half of the dorsal. Caudal fin deeply forked. Pectoral fin inserted horizontally, as long as the head, but not extending to the ventral. Transparent greenish above, a narrow bluish band along the lateral line; abdomen silvery; fins not spotted.

Two specimens, of which the larger is 7 inches long, are in the collection.

Pseudogobio maculatus.

D. 10. A. 8. L. lat. 41. L. transv. 4/5.

Barbels none. Body rather compressed, its greatest depth being equal to the length of the head and one fourth of the total (without caudal); snout rather compressed, of moderate length, a little longer than the eye, the diameter of which is nearly one fourth of the length of the head. Interorbital space convex, as wide as the orbit. Mouth very small, subanterior; lower lip interrupted in the middle. The origin of the dorsal fin is nearer to the end of the snout than to the root of the caudal; ventrals inserted below the middle of the dorsal; caudal fin moderately forked; pectoral not quite so long as the head, extending to the origin of the dorsal fin, but not to the root of the ventral. Silvery, with large, irregular, deep black spots, each occupying one or more scales; anterior part of the dorsal fin and a band along each caudal lobe black.

Two specimens, the larger of which is 3 inches long, are in the collection.

This species would belong, on account of the absence of barbels, to Bleeker's genus *Sarcochilichthys*.

Rhinogobio cylindricus.

D. 11. A. 8. V. 8. L. lat. 48. L. transv. 6/7.

Body low, subcylindrical, its greatest depth being con-

tained five and a half times in the total length (without caudal), the length of the head four times and a fourth. Head low, with the snout much elongate and pointed, the eye being rather nearer to the gill-opening than to the end of the snout; the projecting part of the snout is swollen, conical, the mouth being entirely at the lower side of the snout. Eye one fifth of the length of the head, less wide than the flat interorbital space. Upper lip swollen; lower very short, broadly interrupted in the middle; barbel very short, lying in a groove which extends forward to near the extremity of the snout. Gill-membrane attached to the side of the isthmus. The origin of the dorsal fin is considerably nearer to the end of the snout than to the root of the caudal; ventrals inserted below the posterior half of the dorsal. Caudal deeply forked. The pectorals are much shorter than the head, and scarcely extend to the origin of the dorsal fin. The lower parts of the head and of the thoracic region entirely scaleless. Coloration transparent, without any spots.

One specimen, 4 inches long.

This species differs from *Rhinogobio typus* in having a much smaller eye and in having the lower parts of the thorax scaleless.

Hemiculter leucisculus, Kner.

This species is subject to variations with regard to the width of the third suborbital bone and the position of the ventral fins. In specimens from Ichang the third suborbital is broad enough to be in contact with the præopercular limb, whilst in specimens obtained in the lower parts of the river there is a more or less broad strip of soft skin intervening between suborbital and præoperculum. In the specimens from Ichang the root of the ventral is opposed to the first dorsal spine, whilst in the majority of our other specimens the whole of the ventral is in advance of the dorsal.

Homaloptera fimbriata.

D. 11. A. 7. P. 19. V. 11.

This species differs from the typical species of *Homaloptera* in the shape of its snout and in the arrangement of the barbels. The snout is flat and spatulate, considerably narrowed in front and nearly as long as broad; the mouth is surrounded with fringes, from which the barbels differ only by their greater size; the barbels and fringes of the upper

jaw arranged in two concentric series, two pairs of barbels standing in the outer series; behind each angle of the mouth there is a third pair of barbels.

Scales minute and smooth, but there are a few larger ones along the median line of the back and along the lateral line. Origin of the anal fin rather nearer to the root of the caudal than to the occiput. Eyes very small, much nearer to the gill-opening than to the end of the snout; ventral fins opposite to the anterior half of the dorsal. Pectoral fins not extending to the ventrals. Body with broad, indistinct, dark cross bands; pectoral, ventral, and caudal fins with greyish spots.

One specimen, 4½ inches long.

Misgurnus mizolepis.

D. 7 or 8. A. 8 or 9. V. 6 or 7.

This species has larger scales than any other of the genus known to me; they are arranged in thirteen longitudinal rows between the dorsal fin and the lateral line and in ten between the lateral line and the ventral fin. Barbels ten, four belonging to the mandible; the inner pair of the mandibulary barbels are about half the length of the outer ones. Head and body compressed. The height of the body is nearly equal to the length of the head, which is contained six and a half times in the total (without caudal). Snout at least twice as long as the diameter of the eye, which is one sixth of the length of the head. Origin of the dorsal fin nearer to the root of the caudal than to the occiput, conspicuously in advance of the root of the ventral fin. Pectoral fin a little shorter than the head; caudal fin rounded, continued by a series of rudimentary rays to the anal fin, and a similar distance forward on the dorsal edge of the tail; these rudimentary rays render the free portion of the tail particularly deep. Greyish green, with a greyish line along each series of scales; lower parts whitish, finely mottled with brown.

Three specimens, of which the larger is 6½ inches long, were sent by Mr. Styan from Kiu-Kiang.

Nemachilus xanthi.

D. 12. A. 7. V. 8.

Scales minute, but conspicuous. Caudal fin deeply emarginate; the origin of the dorsal fin is midway between the end of the snout and the root of the caudal. The height of

the body is considerably less than the length of the head, which is one fourth of the total (without caudal). Snout of moderate length, pointed, as long as the postorbital portion of the head; eye of moderate size. A skinny adipose lobe occupies the place of the enlarged axillary scales of the pectoral and ventral fins. Back crossed by fourteen narrow brownish bands; a small deep black spot at the end of the lateral line; each caudal lobe with four oblique blackish bands; each dorsal ray with one or two blackish specks.

One specimen, $4\frac{1}{2}$ inches long.

LXI.—*On the so-called Eyes of* Tridacna *and the Occurrence of Pseudochlorophyll-corpuscles in the Vascular System of the Lamellibranchiata.* By J. Brock *.

Since the investigations of L. Vaillant *Tridacna* has usually been reckoned among the eye-bearing bivalve Mollusca. As the clam-shells, or at least their smaller species, are among the commonest inhabitants of the Indian coral-reefs, I had sufficient inducement, during my residence in the Indian Archipelago in the year 1886, to undertake a careful investigation of these supposed eyes. But owing to the abundance of the tasks which presented themselves on the spot I succeeded finally only in bringing with me to Europe some well-preserved material which has furnished the sole foundation of the following description.

As is well known, the margins of the mantle of the living species of *Tridacna* are splendidly coloured. The observation of the living animals in their natural position is one of the most charming spectacles which the coral-reefs, rich as they are in beautiful forms and brilliant colours, can present, and the enthusiastic descriptions of travellers (Quoy and Gaimard †, Cuming ‡, Vaillant §) are in this particular not in the least exaggerated, as I can affirm from my own experience.

The so-called eyes have no small share in producing this

* Translated by W. S. Dallas, F.L.S., from the 'Zeitschrift für wissenschaftliche Zoologie,' Band xlvi. pp. 270–287. The original memoir is illustrated with a plate (pl. xxii.).

† 'Voyage de l'Astrolabe,' Zoologie, par Quoy et Gaimard, tome iii. (1835), p. 488.

‡ Reeve, 'Conchologia Iconica,' part xiv., Monograph of *Tridacna*.

§ Ann. des Sc. Nat. sér. 3, tome iv. p. 73 (1865).